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# Blockchain is Not Right for Voting

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# Blockchain Technology

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Secure information, linked together and distributed



Photo by [James Sutton](#) on [Unsplash](#)



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# Blockchain Technology

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Accepted new information is added to every copy.

Changes in information are easily detectable in code.

If one copy is different from others, it is rejected.

It is difficult to alter blockchain records because multiple copies would have to be changed simultaneously.

# Blockchain Technology

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Removes central authority and allows a large enough group of users to make decisions and even discard records

Keeps information on blockchain secure

# Issues for Use in Elections

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Removes central authority and allows a large enough group of users to make decisions and discard votes

Keeps all information (even bad information) secure

Does not address true vulnerabilities of internet/mobile voting

# Vulnerabilities for Elections

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Blockchain voting is vulnerable to alterations before vote is added to blockchain.

Any internet or mobile voting is vulnerable to malware on users' phones or computers.

Servers are vulnerable to attacks.

Current pilots have not addressed these issues adequately.

# Other Issues for Elections

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No voter-verified paper record

Excludes blockchain voters from authentic post-election audits

Detection and correction of interference outside blockchain is difficult

# Expert Opinions

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“In short, blockchains do not address any of the fundamental problems in elections, and their use actually makes things worse.”

-Paper, “Public Evidence from Secret Ballots”, *Proc. of the Second Annual Joint Conference on Electronic Voting* (2017) by Matthew Bernhard, Josh Benaloh, J. Alex Halderman, Ronald L. Rivest, Peter Y.A. Ryan, Philip B. Stark, Vanessa Teague, Poorvi L. Voora, Dan S. Wallach



# Technology in Elections

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Elections must

- Maintain voter anonymity
- Provide verifiable records of votes

These are difficult to do simultaneously.

# Keeping Virginia Secure

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Machine tabulated, voter-verified paper ballots currently in use

Post-election risk-limiting audits (recently piloted with success)

Thorough testing by independent experts on new voting technology